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(19) (CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Handgrip

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(73) Same as inventor

(57) 10 Claims

Notice: The specification contained herein as filed

**Canada**

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## ABSTRACT OF THE DISCLOSURE

A handgrip for carrying items comprises a semi-rigid open ended tubular frame with an interior longitudinal circular cavity. A slot extends from one open end of the frame to the other open end. The slot has curvatures on each end and an inward taper along the length. Flexible and rigid handles may be inserted into the cavity through the slot and the user may transport items in either hand in a vertical or horizontal manner without discomfort. One or more circular slots may be located adjacent to the open ends of the frame. One or more rings may be connected to the circular slots. Concave grooves may be formed in the base of the frame.

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A hand protecting device for aiding the hand in gripping of items, comprising:

a semi-rigid open ended elongated tubular member defining an interior, longitudinal circular bore, said member having proportions defining a longitudinal slot extending from one open end of the member to the other open end of the member, said slot having integral equal and opposite curvatures at each open end of the member and having an inward taper on each side, thereby allowing insertion, retention, and removal of item portions.

2. A hand protecting device of claim 1, formed by cutting the tubular member from a section of laminated fibre tubing.

3. A hand protecting device of claim 2, wherein the tubular member has one or more circular slots extending from the outer surface of the member to the inner surface of the member, said slots having edges perpendicular to the tubular member, said slots located adjacent to the open ends of the member, thereby providing means for the storage of the hand protecting device on hooks and the like.

4. A hand protecting device of claim 3, wherein one or more plastic or metal rings are connected to said circular slots.

5. A hand protecting device of claim 1, formed by injection moulded plastics.

6. A hand protecting device of claim 5, wherein the exterior surface of the tubular member has five or more parallel concave grooves, said grooves adjacent to the open ends of the member and evenly spaced along the longitudinal length of the member.

7. A hand protecting device of claim 5, wherein the tubular member has one or more circular slots extending from the outer surface of the member to the inner surface of the member, said slots having edges perpendicular to the tubular member, said slots located adjacent to the open ends of the member, thereby providing means for the storage of the hand protecting device on hooks and the like.

8. A hand protecting device of claim 6, wherein the tubular member has one or more circular slots extending from the outer surface of the member to the inner surface of the member, said slots having edges perpendicular to the tubular member, said slots located adjacent to the open ends of the member, thereby providing means for the storage of the hand protecting device on hooks and the like.

9. A hand protecting device of claim 7, wherein one or more plastic or metal rings are connected to said circular slots.

10. A hand protecting device of claim 8, wherein one or more plastic or metal rings are connected to said circular slots.

## HANDGRIP

This invention relates to hand protecting devices and particularly those allowing insertion and retention of hand carrying item portions. Although used for a variety of purposes, such devices are commonly termed "handgrips".

Various types of handgrips have been developed in the past for carrying fibre, fabric, or plastic items. Various types are collapsible grips, inverted U-shape grips, clamping devices, hooks, and handle members. These types have the disadvantages of being expensive to manufacture and restrictive in utilization. Examples of such handgrips are disclosed in Canadian Patent No. 1,179,994, in United Kingdom Patent No. 2,228,860, and in United States Patents Nos. 4,841,596, and 4,846,519.

10 In Machado and Bernatt, Canadian Patent No. 1,179,994, dated December 27, 1984, granted to Grab Bag Plastics (Canada) Ltd. for a "Detachable Handgrip for Carrying Items", a flexible plastic tubular clipping device is shown as an aid to carrying a variety of items such as bags with handles, ropes, and plywood sheet. Overturned portions at the top of the handgrip extend into the cavity space to aid the user in the gripping of items. This device has several disadvantages. While it permits the retention of item portions, it does not permit ease of insertion or removal of item portions, particularly by those users with weak or impaired manual dexterity. It also has a limited life-span resulting from continuous flexing of the device required to insert and remove items. In addition, the device does not provide a comfortable, moulded grip in the user's  
20 hand, and does not provide for storage when not in use by the user.

The detachable carrier bag handle disclosed in Smith, United Kingdom Patent No. 2,228,860 is similarly comprised of a resilient plastics hollow tube in which item attachment is provided by a slit, the edges of which are in contact along the length of the device, this device having similar disadvantages as the aforementioned handgrip.

Fink, United States Patent No. 4,841,596, discloses a moulded handle with engagement member and recesses with vertical walls from which protuberances project toward one another to grip bag straps. While this type of handgrip facilitates insertion or removal of items, retention and transportation is less secure unless item weight is evenly distributed and transportation is in a vertical manner. In addition, the device does not  
30 provide a comfortable, moulded grip in the user's hand, and does not provide for storage when not in use by the user.

Leonard, United States Patent No. 4,846,519, discloses a longitudinal bag handle support surface with admission slot positioned opposite from the support surface and with opposing ends of the support surface rounded downwardly and outwardly from the body portion. While this type of handgrip readily facilitates insertion and removal of item portions, retention and transportation is insecure and the body formation interferes with the grip of the user so that this device provides significantly less protection to the user's hand, and does not provide for storage when not in use by the user.

10 It is desirable to have an independent handgrip comprising a single member which can aid in the transportation of items in either a vertical or horizontal manner, into which item portions can be readily inserted and removed, which evenly distributes the weight of transported items, which retains item portions securely, which provides comfort and protection to the hand of the user, and which is conveniently stored and carried when not in use.

This present invention relates to a durable hand protection device for more easily inserting and removing item portions, and for comfortable vertical and horizontal transportation of carried items.

20 In the embodiment of this invention, the handgrip comprises a semi-rigid open ended tubular member defining an interior longitudinal circular bore. A slot extends from one open end of the member to the other open end. The slot has curvatures on each end, and the slot has an inward taper, thereby providing means for ease of insertion and removal of item portions, such as carrier bag handles, ropes, metal handles and the like.

In one aspect of the invention, the handgrip is formed by cutting the tubular member from a section of laminated fibre tubing.

In a further aspect of the invention, the handgrip is formed by injection moulded plastics.

30 In a further aspect of the invention, the handgrip has one or more circular slots extending from the outer surface of the member to the inner surface of the member. The slots have edges perpendicular to the member and are located adjacent to the open ends of the member, thereby providing means for the storage of the handgrip on hooks and the like.

In another aspect of the invention, the handgrip has one or more plastic or metal rings connected to the circular slots in the member, thereby providing means for storage

of the handgrip and for transportation when not in use for carrying items on key-rings and the like.

In a further aspect of the invention, the handgrip, formed by injection moulded plastics, has five or more parallel concave grooves adjacent to the open ends of the member and evenly spaced along the bottom face of the member, thereby providing means for firm and comfortable gripping of the device by the user.

This device aids the user in manual transportation of various items in a vertical or horizontal manner by the user wrapping the fingers about the curved base of the handgrip.

10 The invention, as exemplified by the preferred embodiments, is shown in the drawings, in which:

Figure 1 is a perspective view showing the handgrip held in the user's hand;

Figure 2 is a side view of the handgrip of Figure 1;

Figure 3 is a top view of the handgrip of Figure 1;

Figure 4 is a section of the handgrip of Figure 1;

Figure 5 is a side view of the handgrip showing one circular slot adjacent to one open end;

Figure 6 shows the handgrip of Figure 5 suspended on a storage hook;

Figure 7 shows the handgrip of Figure 5 with a key-ring attached to the circular slot;

20 Figure 8 is a side view of the handgrip showing twelve parallel concave grooves adjacent to the open ends;

Figure 9 is a bottom view of the handgrip of Figure 8;

Figure 10 shows the handgrip retaining a plurality of bag handle portions for purposes of hand-carrying bags;

Figure 11 shows the handgrip with a folded plastic bag retained in the interior cavity for purposes of storage of the plastic bag.

Referring to Figure 1, the embodiment of the invention shown, a handgrip 12 comprises a rigid curved base portion 14 with semi-rigid sidewall portions 16 and 18 which define a circular cavity 20. Portions of items to be transported are inserted into  
30 the cavity 20 by the user, and the user's hand 22 generally grips the handgrip about the base 14 and sidewall portions 16 and 18. The total curvature of the base and sidewall portions is of sufficient size that a considerable weight may be supported by the

handgrip without discomfort to the hand 22, because the handgrip 12 fits comfortably within the palm of the hand 22.

Referring to Figure 2, the handgrip 12 has open ends 24 and 26 of sufficient size for use with a variety and plurality of flexible and rigid retained item portions, and the length 28 of the member is of sufficient size to fit comfortably in the user's hand and to support transportation of retained items in a vertical or horizontal direction.

Referring to Figure 3, the preferred embodiment of the handgrip 12 has a longitudinal slot 30 extending from one open end 24 to the other open end 26. It may be appreciated by those skilled in the art that the slot 30 is of sufficient width to ensure rigidity of the member 12, to allow for insertion and removal of various retained item portions, and to provide for retention of retained item portions. It is appreciated that, a loaded bag formed of material such as cotton and the like, with one or more flexible straps, can be hand transported with the handgrip 12, can be set down by the user and the handgrip remains secured to the straps, so that the user can subsequently pick up the complete unit of handgrip and bag in one simple action.

Referring to Figures 3 and 4, the slot 30 has equal and opposite curvatures 32, 34, 36, and 38 at each end and equal inward tapers on each side 40 and 42. It may be appreciated by those skilled in the art that the curvatures 32, 34, 36, and 38, and the tapers 40 and 42 are of sufficient size to ensure rigidity of the member 12, to allow for fluid insertion and removal of various retained item portions, and to provide for retention of item portions. Referring to Figure 4, a preferred embodiment of the handgrip is formed by cutting the member 12 from a section of laminated fibre tubing. It may be appreciated by those skilled in the art that the inner fibre portion 44 provides sufficient rigidity for the user to manipulate transportation of heavy and bulky items in a vertical or horizontal direction, and ensures protection of retained item portions. It may be appreciated by those skilled in the art that the lamination 46 provides protection for the inner fibre portion 44 and ensures protection of the user's hand during transportation.

A preferred aspect of this invention is shown in Figure 5, wherein a handgrip is shown with a circular slot 48 adjacent to the open end 26. As can be appreciated, an important feature of this type of handgrip is immediate availability to the user in circumstances of hand transportation, and convenient storage by the user. The circular slot 48 provides for these utilizations. The handgrip 12 can be stored on a storage hook 50 and the like, as shown in Figure 6. The handgrip 12 can be stored on a key-ring 52 and the like, as shown in Figure 7.



Referring to Figure 8, a further preferred embodiment of the handgrip 12 is formed by injection moulding the shape from an appropriate plastic material. As can be appreciated by those skilled in the art, many plastics are available which would provide the rigidity for the handgrip. These include high density polyethylene, polypropylene, and polyurathane. Additionally, the member 12 may have 5 or more parallel concave grooves 54 evenly spaced along the length of the base portion 14.

Referring to Figure 9, as may be appreciated by those skilled in the art, the size of the grooves 54 is sufficient to ensure rigidity of the handgrip and the positioning of the grooves on the base 14 of the member provides for comfortable grip for the user.

10 Further features of the present invention are shown in Figures 10 and 11. Figure 10 shows the utilization of the handgrip for transportation of common style plastic shopping bags. The upper handle portion of the bags 56 are fluidly fed by the user into the handgrip 12 through the horizontal slot, guided and facilitated by the curvatures 32, 34, 36, and 38 and the tapers 40 and 42. Figure 11 shows the utilization of the handgrip for storage and transportation of a common style plastic shopping bag and a key-ring. A rolled plastic shopping bag 58 is inserted through the open end 24 of the member 12 and is retained securely in the member cavity 20 until utilization of the bag 58 is required. Additionally or alternatively, a key-ring 52 is secured in the circular slot 48, providing storage and transportation of the handgrip until utilization is required.

20 Although various preferred embodiments of the invention have been described and illustrated, the present invention is not limited to the features of these embodiments, but includes all variations and modifications within the scope of the claims.

FIG. 1

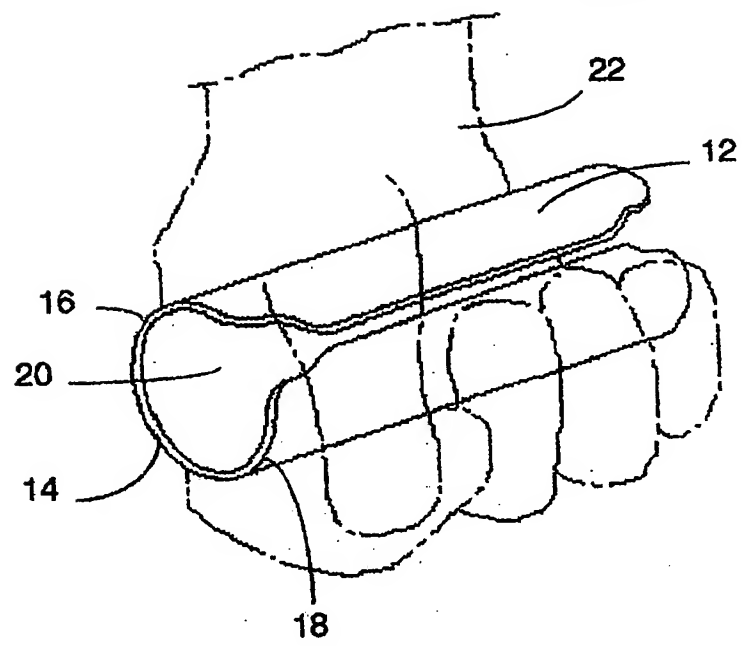
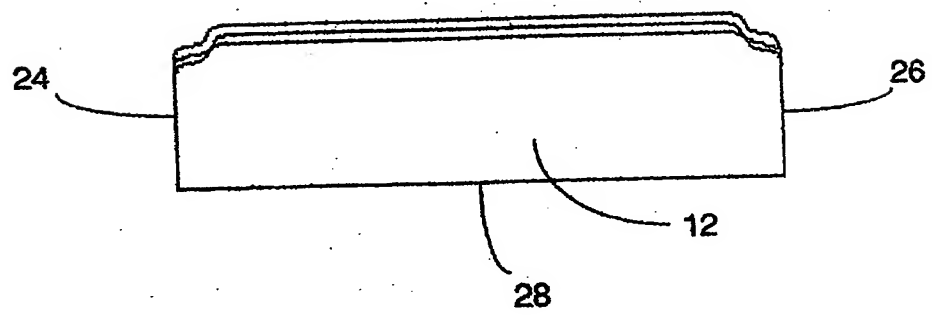


FIG. 2



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FIG. 3

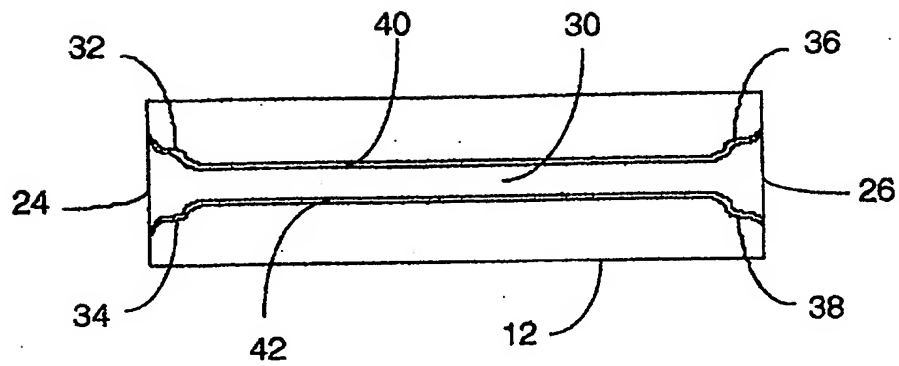


FIG. 4

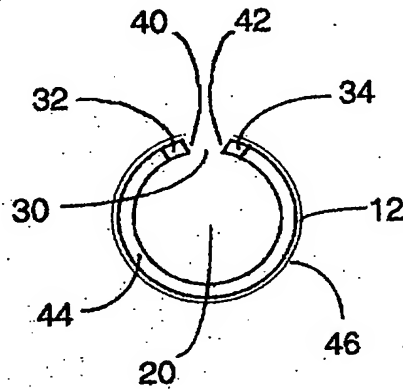
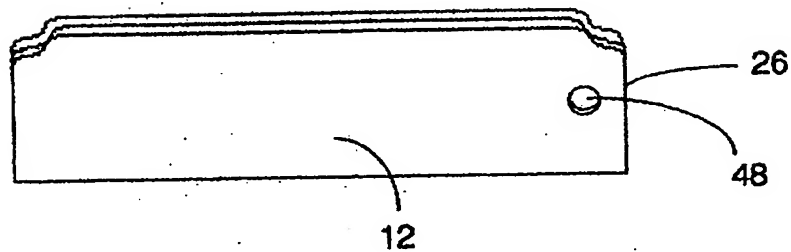
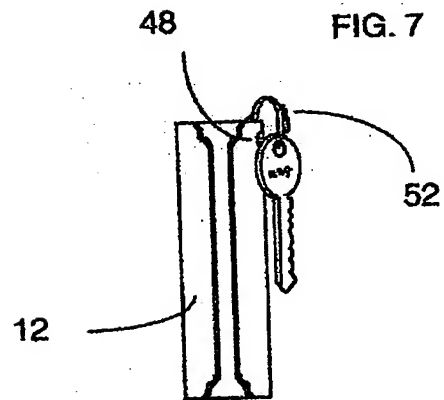
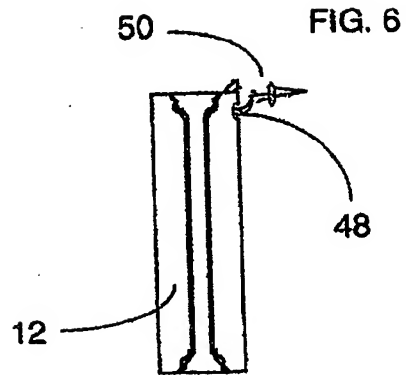


FIG. 5



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FIG. 8

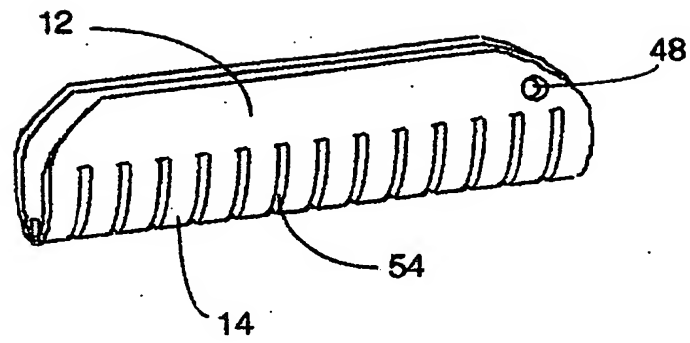
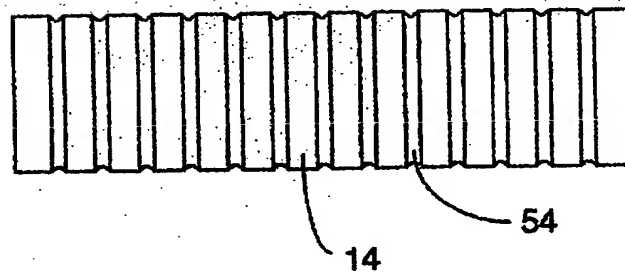


FIG. 9



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FIG. 10

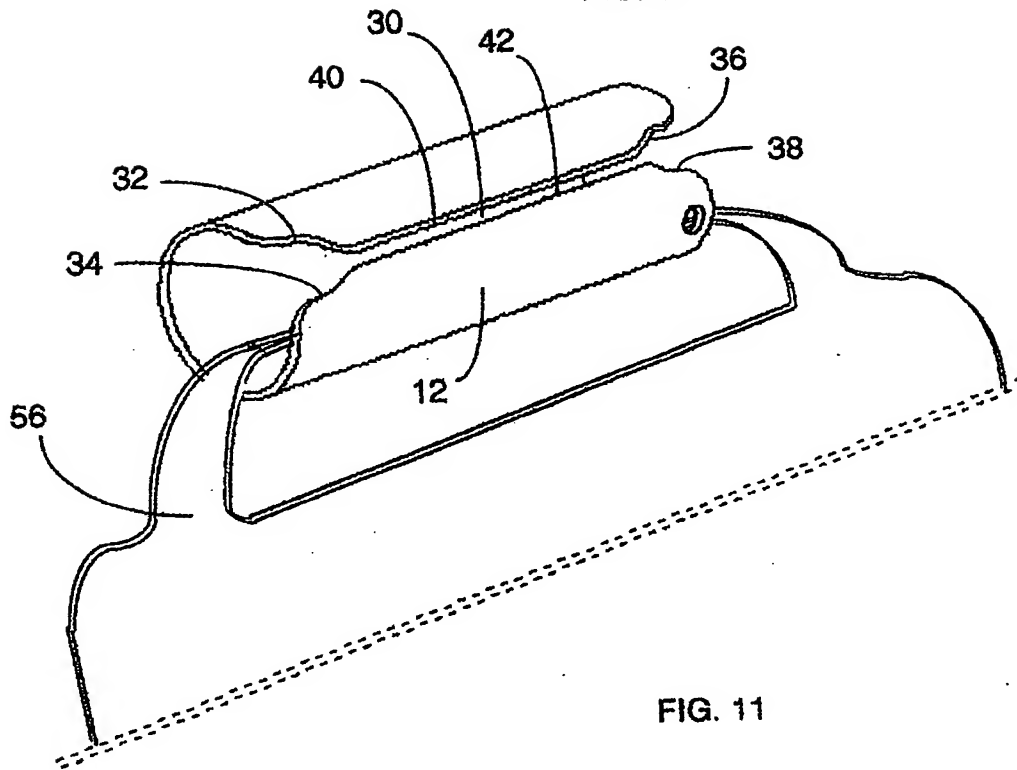
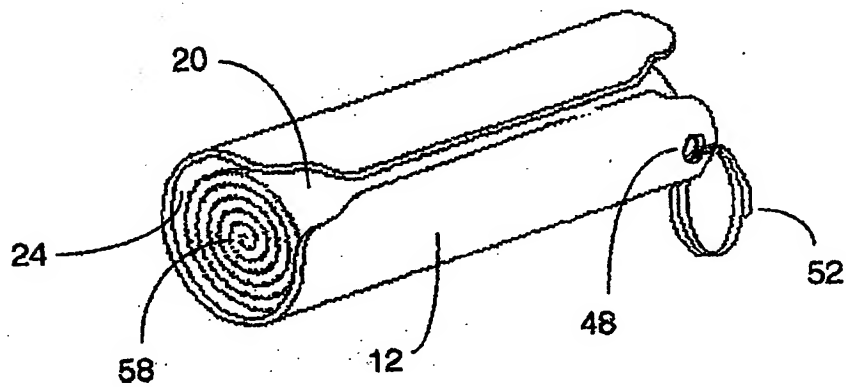


FIG. 11



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